

**Remarks:**

The above amendments and these remarks are responsive to the Office Action dated January 9, 2007. Prior to entry of this amendment, claims 1-26 were pending in the application.

In the Office Action, the Examiner objected to claim 23 due to informalities and requested that the cross-referenced applications in the specification that have been patented be updated accordingly.

In the Office Action, the Examiner rejected claims 1, 3-4, 6-15, 17-23, 25, and 26 as being anticipated by U.S. Patent Publication No. 2003/0090597 A1 Katoh, et al. ("Katoh") under 35 U.S.C. § 102(e).

Further, the Examiner rejected claims 2, 5, 16, and 24 under 35 U.S.C. § 103(a) based on Katoh in view of U.S. Patent No. 6,816,141 Fergason ("Fergason").

Applicants respectfully traverse the rejections under both 35 U.S.C. § 102(e) and 35 U.S.C. § 103(a).

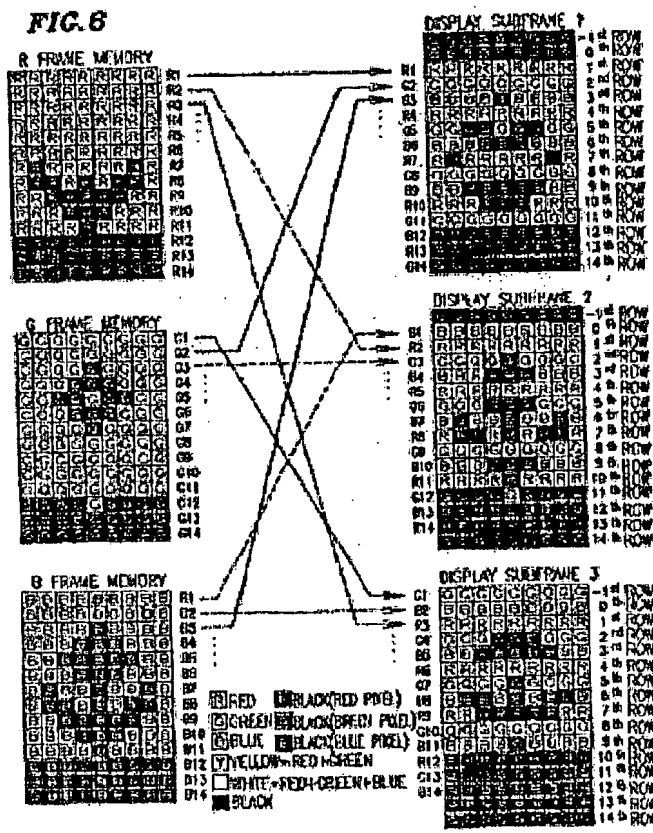
In view of the remarks below, Applicants respectfully request reconsideration of the application under 37 C.F.R. § 1.111 and allowance of the pending claims.

**Rejections under 35 USC § 102**

**Rejections Based on Katoh under 35 U.S.C. § 102(e).**

Katoh does not anticipate claims 1, 3-4, 6-15, 17-23, 25, and 26 under 35 U.S.C. § 102(e) because it does not disclose each feature recited in the claims.

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Katoh includes a single-panel projection type image display device which sequentially illuminates the same area on a projection plane with red, green and blue light rays that have been modulated by mutually different pixel regions of the single image display panel, thereby forming pixels on that same area. Katoh's device is designed to overcome the limitations of conventional single-panel display devices where the red, green and blue light rays are separated from each other spatially resulting in reduced brightness and resolution of the displayed image. Katoh's device performs like a conventional three panel display, whereby three data sets representing red R, green G, and blue B image frames are stored into frame memories (as shown in Fig. 6 of

Katoh shown above). However, having only a single display panel, Katoh can't display the red, green, and blue image frames simultaneously by three display panels so as to be superimposed one upon each other. Katoh's solution to not having three display panels is to create three display subframes whereby the rows of each of the color frame memory pixel data are recombined time sequentially to form three red/green/blue display subframes, each representing one third of the screen, spatially speaking. The three display subframes are mutually shifted (without overlap) and synthesized together into one frame for display.

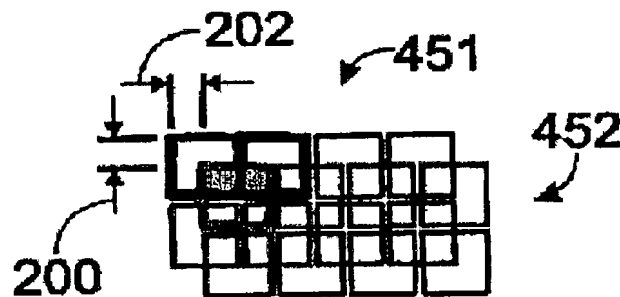
Katoh fails to anticipate the claims because it does not disclose certain steps and features recited in the claims.

#### Claim 1

Katoh does not disclose each step of the method of displaying an image recited in claim 1. Claim 1 recites:

A method of displaying an image, the method comprising:  
receiving image data for the image;  
defining a first sub-frame of the image having a plurality of image elements;  
defining a second sub-frame of the image having a corresponding plurality of image elements, with each image element of the second sub-frame spatially offset an offset distance from a corresponding image element of the first sub-frame, there being a portion of the image represented by an image element of the second sub-frame and also by at least two image elements of the first sub-frame;  
displaying the first sub-frame in a first position; and  
displaying the second sub-frame in a second position, with each displayed image element of the second sub-frame spatially offset substantially the offset distance from the corresponding displayed image element of the first sub-frame.

Applicants' first and second sub-frames are illustrated in Figures 7A-7C, where the first and second sub-frames are shown each having 8 respective image elements (e.g., pixels). Figure 7B shows second subframe 452 (and its respective pixels 168) offset a horizontal offset distance 202 and a vertical offset distance 200 (see page 15, lines 4-27 of Applicants' specification for description). As shown below in Figure 7C (with shading added for emphasis), a portion of the image 178 is represented by an image element (a pixel 168) of the second sub-frame 452 and also by at least two image elements (two pixels 168) of the first subframe 451 (the portion being completely shading in for emphasis).



**Fig. 7C**

Katoh does not disclose a portion of the image represented by an image element of the second sub-frame and also by at least two image elements of the first sub-frame. For example, as shown in Figure 6 of Katoh, a portion of the image represented by the first pixel G (the image element of the second sub-frame G) in line G1 is **not** also represented by at least two pixels R (the image elements of the first sub-frame R) in line

R1, nor any other two R pixels in sub-frame R. Rather, a portion of the image represented by the first pixel G in line G1 of the G sub-frame is also represented by only a single pixel of the first sub-frame (the first R pixel of line R1 of sub-frame R).

For at least these reasons, Katoh does not disclose each step of claim 1. Accordingly, it does not anticipate claim 1 under 35 U.S.C. § 102(e). Consequently, claims 3-4, 6-15, 17-23, 25, and 26, having similar elements to claim 1 or dependant from claims having similar elements to claim 1, are likewise not anticipated by Katoh for at least the reasons presented with respect to claim 1.

**Rejections under 35 USC § 103**

**Rejections Based on Katoh in view of Fergason under 35 U.S.C. § 103(a).**

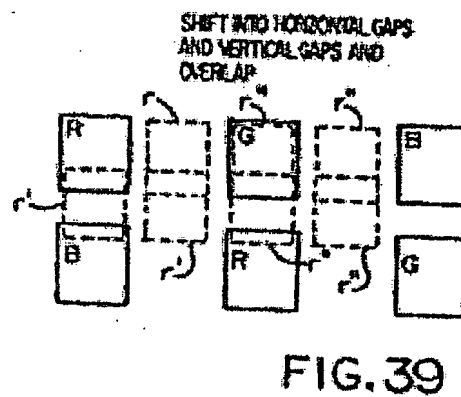
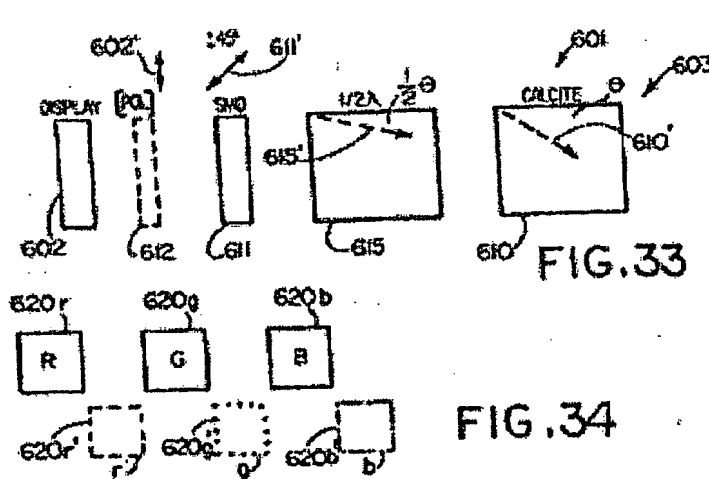
The Office Action rejected claims 2, 5, 16 and 24 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Katoh in view of Fergason. Applicants respectfully submit claims 2, 5, 16, and 24 are allowable over the cited art as being dependant from amended independent claims 1, 13, 23, and 26, and request reconsideration of this rejection.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations (MPEP § 2142). In the present case, the

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references fail to teach or suggest all the claim limitations, nor do they suggest the claimed combination.

Both Katoh and Fergason fail to teach or suggest a system and method for displaying an image as recited in the present claims. As previously presented, Katoh does not disclose or suggest a portion of the image represented by an image element of the second sub-frame and also by at least two image elements of the first sub-frame.



Ferguson includes a system and method to improve the contrast and resolution of passive displays (e.g., LCDs). When displaying low light images, liquid crystal displays usually reduce the number of fixed pixels in the display that are transmitting light. This results in reduced brightness of the displayed images, but also results in decreased resolution. In contrast, active displays, such as CRTs, can display a dark scene by reducing the intensity of the output light so that resolution is maintained even though intensity of the light produced by phosphors is reduced. Ferguson's solution to resulting decreased resolution in LCDs is to make the bright areas appear brighter, while keeping the less bright pixels still transmitting light, thereby creating contrast to achieve the appearance of a lower light scene still having adequate resolution. This is achieved through the operation of a dithering system 601 (see Fig. 33 of Ferguson shown above) whereby the plane of polarization of light is rotated to cause shifting of the light output, resulting in duplicate pixels of the original pixel displayed at a shifted location (see Fig. 34 shown above and column 37, lines 1-25 of Ferguson). In such a manner, the optical dead space between fixed pixels in a LCD can be filled with such duplicative pixels to effectively increase the size of pixels. In effect, the dithering system allows for the shifting of a pixel's location even though the actual location of the pixel in the LCD itself is fixed.

Fig. 39 of Ferguson (also shown above) illustrates duplicate pixel images overlapping. For example, Fig. 39 shows an image element of the second subframe (e.g., duplicate pixel *r'*) overlapping at least two image elements of the first sub-frame (e.g. pixels *R* and *B*). However, Ferguson (similar to Katoh) does not disclose a portion

of the image represented by an image element of the second sub-frame and also by at least two image elements of the first sub-frame. An image element of the second sub-frame in Fergason (e.g., pixel  $r'$ ) is actually representing content of the image from the portion of the image represented by original pixel  $R$ . Therefore, an image element of a second sub-frame in Fergason represents a portion of the image represented by a single pixel (the original pixel) of the first sub-frame and not at least two image elements of the first sub-frame. While the second sub-frame is shifted in Fergason, the content of Applicants' second sub-frame differs from that of Fergason.

Therefore, the combination of Katoh and Fergason does not suggest or teach the claim limitations of independent claims 1, 13, 23, and 26, nor any claims depending therefrom including claims 2, 5, 16, and 24.

In absence of such disclosures, the cited references do not satisfy the most basic requirement for establishing a prima facie case of obviousness. Accordingly, claims 1, 3-15, 17-23, and 25-26, are allowable over the combination of those references.

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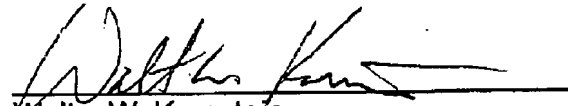


Conclusion

Applicants believe that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, Applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

Respectfully submitted,

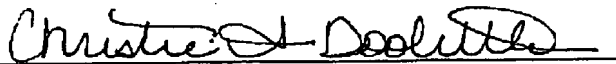
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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to Examiner H. Tran, Group Art Unit 2629, Assistant Commissioner for Patents, at facsimile number (571) 273-8300 on April 23, 2007.



Christie A. Doolittle

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